Sepehr Dehdashtian

517-721-0269 | sepehr@msu.edu | Website | Google Scholar | LinkedIn | GitHub

Education

Michigan State University | Ph.D. in Computer Science **Jun. 2022 – Present**

- **Focus:** Responsible AI, Generative AI, Representation Learning, Multimodal Models, Computer Vision
- **GPA:** 4.0/4.0

Sharif University of Technology | M.Sc. in Electrical Engineering **Sep. 2018 – Feb. 2021**

- **Thesis:** Blind Recognition of Channel Codes Using Deep Neural Networks
- **GPA:** 3.87/4.0

Shahid Chamran University of Ahvaz | B.Sc. in Electrical Engineering **Sep. 2014 – Aug. 2018**

- **GPA:** 3.93/4.0 (ranked 1st)

Publications

Fairness and Bias Mitigation in Computer Vision: A Survey **2024**

Sepehr Dehdashtian*, Ruozhen He*, Yi Li, Guha Balakrishnan, Nuno Vasconcelos, Vicente Ordonez, Vishnu Naresh Boddeti

IEEE Transaction on Pattern Analysis and Machine Intelligence (TPAMI) (Under Review)

The Dark Side of Dataset Scaling: Evaluating Racial Classification in Multimodal Models **2024**

Abeba Birhane*, Sepehr Dehdashtian*, Vinay Prabhu, Vishnu Naresh Boddeti

ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2024

Utility-Fairness Trade-Offs and How to Find Them **2024**

Sepehr Dehdashtian, Bashir Sadeghi, Vishnu Naresh Boddeti

IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2024

FairerCLIP: Debiasing CLIP's Zero-Shot Predictions using Functions in RKHSs **2024**

Sepehr Dehdashtian*, Lan Wang*, Vishnu Naresh Boddeti

International Conference on Learning Representations (ICLR) 2024

On characterizing the trade-off in invariant representation learning **2022**

Bashir Sadeghi, Sepehr Dehdashtian, Vishnu Naresh Boddeti

Transactions on Machine Learning Research (TMLR)

Deep-Learning Based Blind Recognition of Channel Code Parameters over Candidate Sets under AWGN and Multi-Path Fading Conditions **2021**

Sepehr Dehdashtian, Matin Hashemi, Saber Salehkaleybar

IEEE Wireless Communications Letters

Technical Skills

Topics: Computer Vision, Representation Learning, Multimodal Models, Generative Models, Responsible AI, Vision-Language Models

Languages: Python, C++, CUDA, Verilog, VHDL

ML Frameworks: PyTorch, PyTorch-Lightning, TensorFlow, Keras, OpenCV, Scikit-Learn

Others: RevealJS, Git, MATLAB, FPGA

Awards & Honors

- **STEAMpower Fellowship** **2024**
- **TMLR Outstanding Paper Award Runner-Up and TMLR Featured Certification Award** **2023**
- **Ranked 2nd GPA the graduating class of 2021 |** Sharif University of Technology **2021**
- **Ranked 5th out of 30,000 |** Iranian University Entrance Exam for Master's degree **2018**
- **Ranked 1st GPA the graduating class of 2018 |** Shahid Chamran University of Ahvaz **2018**

Professional Experience

Research Assistant at Michigan State University **Jun. 2022 – Present**

- Developed algorithms to make computer vision, multimodal, and generative models fair and debiased.
- Published papers in top computer vision and machine learning conferences: ICLR'24, CVPR'24.

Research Assistant at Sharif University of Technology **Nov. 2018 – Feb. 2021**

- Developed deep learning based methods for blind recognition of channel codes.
- Published a research paper in IEEE Wireless Communication Letters.

Student Intern at Radaq Company **Jun. 2017 – Aug. 2017**

- Designed a data logger system for agricultural sensors.
- Self-studied PHP and HTML to develop a website for the data logger system

Projects

- **Mitigating Political Bias in Pre-Trained Large Language Models** **2023**
- **Visually Explaining Fair Representation Learning—A Model Perspective** **2023**
- **Video Synopsis using OpenCV in Python** **2019**

Mentorship

- **Mentee:** Yilin Zheng

  Role: Master Student at Michigan State University, USA

  Mentoring Period: Jan. 2024 – present

  Project: "FairDiagnosis: Towards Fair Glaucoma Diagnosis"

Teaching

- **Verilog Tutor | Shahid Chamran University** **2017**
- **Communication Systems Tutor | Shahid Chamran University** **2015**

Services & Activities

- **Scientific-Students Associations of Clean Energy |** Deputy Secretary **2016**
- **Scientific-Students Associations of EE Department |** Member **2015**